

COVERLESS SCANNER

1 BACKGROUND OF THE INVENTION

2 1. Field of the Invention

3 The present invention relates to scanner, and more particularly to a
4 coverless scanner so that the operator does not need to open the cover for
5 replacing a new piece of paper to be scanned and is able to scan a new piece of
6 paper simply by placing the paper on top of the screen of the scanner.

7 2. Description of Related Art

8 In order to digitize the information on papers, scanners have been
9 developed so that people are able to transmit the scanned information in a way in
10 addition to well-established methods. However, everytime the operator scans a
11 piece of paper, the operator has to lift the cover so that the piece of paper is able
12 to be placed on top of the screen of the scanner. After the cover is closed, the
13 operator has to press a certain button to initiate the movement of the scanning
14 device inside the scanner. Moreover, the scanning device inside the scanner
15 moves lengthwise, which is troublesome and time consuming.

16 To overcome the shortcomings, the present invention tends to provide an
17 improved scanner to mitigate the aforementioned problems.

18 SUMMARY OF THE INVENTION

19 The primary objective of the present invention is to provide an improved
20 scanner without a cover and provided with a sensor so that everytime there is a
21 piece of paper placed on top of the screen, the sensor sends out a signal to
22 activate the image sensor.

1 Another objective of the present invention is that the image sensor
2 moves widthwise such that the time required to complete the scanning process is
3 short.

4 Other objects, advantages and novel features of the invention will
5 become more apparent from the following detailed description when taken in
6 conjunction with the accompanying drawings.

7 **BRIEF DESCRIPTION OF THE DRAWINGS**

8 Fig. 1 is perspective view showing the internal structure of the scanner
9 of the present invention;

10 Fig. 2 is perspective view of the scanner of the present invention; and

11 Fig. 3 is a side view showing the scanner of the present invention.

12 **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT**

13 With reference to Figs. 1 and 2, the scanner in accordance with the
14 present invention includes a transmission assembly (10), a contact image sensor
15 (20) and a sensing assembly (30).

16 The transmission assembly (10) is composed of a motor (11), a
17 transmission gear set (12) coupled with the motor (11) and a belt (13) connected
18 to the transmission gear set (12).

19 The contact image sensor (20) is an electronic element which is able to
20 digitize scanned information and conventional in the art so that detailed
21 description thereof is thus omitted.

22 The sensing assembly (30) includes a casing (31) mounted on a top of
23 the scanner and a sensor (32) securely received inside the casing (31) and

1 electrically connected to the transmission assembly (10).

2 With reference to Fig. 3, it is noted that before the scanner of the present
3 invention is used, the casing (31) is mounted on top of a screen (21) of the
4 contact image sensor (20) and has a recessed area (311) defined in a side of the
5 casing (31).

6 When the scanner of the present invention is in use, the operator simply
7 places a piece of paper to be scanned on top of the screen (21) and abutted to the
8 recessed area (311) of the casing (31), due to the insertion of the piece of paper in
9 the recessed area (311), the sensor (32) is initiated. After the sensor (32) is
10 initiated, a signal is sent to the transmission assembly (10). Thus the motor (11)
11 is driven to rotate, which drives the transmission gear set (12) and the belt (13).
12 The belt (13) will then drive the contact image sensor (20) to move widthwise,
13 which shortens the time required to finish the entire scanning process.

14 Therefore, it is noted that the removal of the conventional scanner cover
15 facilitates the continuous operation of the scanner. Furthermore, the lengthwise
16 movement of the contact image sensor is changed to widthwise such that the
17 time required to complete the scanning process is short.

18 It is to be understood, however, that even though numerous
19 characteristics and advantages of the present invention have been set forth in the
20 foregoing description, together with details of the structure and function of the
21 invention, the disclosure is illustrative only, and changes may be made in detail,
22 especially in matters of shape, size, and arrangement of parts within the
23 principles of the invention to the full extent indicated by the broad general

1 meaning of the terms in which the appended claims are expressed.